CLAIMS

1. A magnetic chromatography method for performing a bioassay comprising the steps:

a) providing a chromatographic medium;

b) providing a magnetic field;

c) providing a reaction mixture having a quantity of magnetic particles suspended therein;

d) contacting said chromatographic medium with said reaction mixture at a site thereon such that said reaction mixture flows bi-laterally across said chromotographic medium;

e) applying said magnetic field at said site upon said chromatographic medium corresponding to where said reaction mixture is contacted in step d), said magnetic field being so applied such that a majority of said magnetic particles suspended within said reaction mixture are caused to become captured upon said medium at said site; and

f) analyzing said magnetic particles captured upon said chromatographic medium.

2. The magnetic chromatography method of Claim 1 wherein in step b), said magnetic field is generated by a magnet.

3. The magnetic chromatography method of Claim 1 wherein in step b), said magnetic field is generated by an electromagnet.

4. The magnetic chromatography method of Claim 1 wherein in step e), said magnetic field is applied by positioning a magnet in close proximity to the chromatographic medium.

5. The magnetic chromatography method of Claim 1 wherein in step c), said magnetic particles have an analyte, receptor, and label complexed therewith.

6. The magnetic chromatography method of Claim 5 wherein said label comprises a detectable chemical moiety selected from the group consisting of radioactive, fluorescent, enzymatic, and dye moieties.

7. The magnetic chromatography method of Claim 2 wherein in step b), said magnetic field is provided by a magnetic rail having a width between 0.003 inches and 3.0 inches, and having a length between 0.010 inches and 100 inches.

8. The magnetic chromatography method of Claim 1 wherein in step c), said magnetic particles have a diameter ranging between 1 nm to 100 microns.

9. The magnetic chromatography method of Claim 1 wherein in step a), said chromatographic medium comprises a test strip, said test strip comprising:

a) an elongate backing having first and second opposed ends and an intermediate portion;

b) first and second absorbent pads formed upon respective ones of said first and second ends of said backing;

c) a lateral flow mesh formed upon said intermediate portion of said backing and between said first and second absorbent pads; and

d) a vertical flow mesh formed upon said lateral flow mesh.

10. The magnetic chromatography method of Claim 9 wherein in step c), said reaction mixture is contacted with said chromatic graphic medium via a sample well such that said sample well causes said reaction mixture to flow sequentially from said vertical flow mesh, to said lateral flow mesh, and to said absorbent pads.

11. A magnetic chromatography test strip for performing a bioassay comprising:

a) an elongate backing having first and second opposed ends and an intermediate portion;

b) first and second absorbent pads formed upon respective ones of said first and second opposed ends of said backing;

c) a lateral flow mesh formed upon said intermediate portion of said backing and between said first and second absorbent pads; and

d) a vertical flow mesh formed upon said lateral flow mesh.

12. The magnetic chromatography test strip of Claim 11 wherein said vertical flow mesh and said lateral flow mesh are fabricated from a polymer selected from the group consisting of nylon and polyester.

13. The magnetic chromatography test strip of Claim 11 wherein said lateral flow mesh is formed to have a generally perpendicular orientation relative said vertical flow mesh.

14. The magnetic chromatography test strip of Claim 11 wherein said lateral flow mesh is formed to have a generally diagonal orientation relative said vertical flow mesh.

15. The magnetic chromatography test strip of Claim 11 further comprising:

a) sample well for introducing a test solution to said test strip, said sample well being configured to disperse said test solution upon said vertical flow mesh.

16. The magnetic chromatography test strip of claim 11 further comprising:

a) a magnet disposed underneath said intermediate portion of said backing.

17. The magnetic chromatography test strip of claim 16 wherein said magnet is disposed beneath said vertical flow mesh and said lateral flow mesh.